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FARM INDEX

February 1970

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THE AGRICULTURAL OUTLOOK

Agricultural trade, long a help to our balance of payments, may have run into the red itself in 1969.

While data for fourth quarter 1969 aren't complete yet, here's how agriculture's net contribution to the balance of payments shaped up in the first 9 months of last year:

January-March: a \$154 million deficit due to the dock strike.

April-June: a \$75 million deficit.

July-September: a \$73 million surplus.

It would take a fourth quarter surplus as large as the first quarter deficit for agriculture to end up in the black for the year. The second and third quarters virtually cancelled each other out.

Of course, farm trade is not the only activity affecting the payments balance.

The balance of payments is an accounting of all money entering or leaving the United States for any reason: money paid for imports, foreign spending by U.S. firms, tourists, or the government; money received for our exports, for loan repayments, from tourists visiting America, or from foreign investment here.

When dollars earned exceed dollars paid, the balance is deemed favorable. If the reverse is true, as in many recent years, the balance is in the favor of foreign holders who can demand gold or build up claims on our goods.

To figure agriculture's contribution to the total payments balance, it's necessary first to distinguish farm trade from nonfarm, and commercial exports from those financed by the government.

The value of our commercial farm sales in the first 3 quarters of 1969 amounted to \$3.2 billion—down about 10 percent from the comparable period the year before. But our imports, though they registered a drop of 5 percent, came

to \$3.6 billion—leaving our commercial trade balance \$0.4 billion in arrears.

However, money earned from our noncommercial export trade contributed favorably to our balance of payments in the first 9 months of 1969. It added \$254 million to the plus side of the payments ledger.

These returns on noncommercial exports stem from two sources:

—Countries who bought our farm products on credit in earlier years agreed to pay us in annual dollar installments. During the first 9 months of 1969, foreign countries paid \$103 million in principal and interest on earlier credit sales.

—Exports paid for in local currencies do not immediately help our balance of payments since we cannot convert the currencies into dollars.

However, each year the U.S. government can draw on this reserve when it needs to spend money abroad, thus avoiding an outlay of dollars.

In January-September 1969, government agencies abroad spent \$151 million worth of local currencies, reducing the dollar drain by that amount.

The \$254 million on the plus side we received from our noncommercial farm trade during the first 3 quarters of 1969 helped counterbalance the \$410 million deficit registered by our commercial farm trade. As a result, agriculture's net contribution to the balance of payments in January-September was a minus \$156 million.

The National Agricultural Outlook Conference

From the 16th through the 19th of February, delegates from all 50 States and Puerto Rico will gather in Washington, D.C. for the National Agricultural Outlook Conference.

In addition to assessing what's ahead for U.S. agriculture during 1970, experts in and outside government will examine not only the overall economic situation on outlook—both at home and abroad—but also the various aspects of food and nutrition and maintaining the environment. There will also be the usual sessions devoted to specific farm commodities and family living.

THE UPS

Rural banks, flush with World War II savings, were anxious to loan farmers money. But farmers want even more money now, and farm credit is a seasonal squeeze.

Last fall, rural banks were busy handling the inflow of deposits and loan repayments by farmers.

However, local bank presidents—and their tellers, too—knew that much of this money was merely being put into winter storage.

And when spring comes around again the flow of funds will be in the opposite direction. So, last fall's deposits will have to be available for loans and withdrawals by farmers this spring and therefore can't be tied up in anything long term.

Most banks don't do much more with the money than deposit it in other banks or invest it temporarily in very liquid securities such as U.S. Treasury bills. Thus, these funds are used productively in the rural community for only about half the year.

This situation was always present, but now causes more concern because banks are having trouble meeting their customers' year-round credit demands.

The shortage of loanable funds is a fairly recent event. A few years back, most banks had ample assets above loan demands.

During World War II, high farm incomes coupled with shortages of civilian goods to buy gave farmers the chance to pay off debts and build up bank accounts rather than take out loans. Rural banks invested the money in se-

curities that could be sold off when demand for loans increased.

Since the end of the war, farmers have been using more and more credit. The wartime bulge in deposits helped commercial banks to meet increased farm credit demands at about the same rate as all lenders together.

During the decade ending 1967, for instance, farm loans outstanding at banks rose by 156 percent while total farm debt grew 147 percent.

Farm credit supplied by banks, however, increased much faster than rural bank deposits. In 1962, only a fourth of 9,000 *agricultural* banks had loans amounting to 60 percent or more of deposits. By 1967, 46 percent of these banks were in this relatively tight condition.

Thus, many rural banks are

AND DOWNS OF RURAL BANKING

hard-pressed to meet all credit demands on them. They find it increasingly tough to meet both the seasonal and year-round needs of their borrowers.

What can rural banks and banking agencies do about this situation?

The Federal Reserve System has proposed to assist its member banks by loaning them short term funds for seasonal needs. But this program would not help the many nonmember rural banks, nor the member banks that are tight but that don't have large seasonal swings in their loans and deposits.

More generally, if rural banks are to maintain their role in farm lending in the face of credit demands that continue to outrun deposit growth, they will need to tap national money markets. Other farm lenders, including farm supply corporations and Production Credit Associations, get their funds from this source. But at present, only the larger banks can effectively tap these markets.

Perhaps the most promising way that smaller rural banks could get access to money market funds is by selling their farm notes and mortgages or by using them as security to borrow funds. A new mechanism or institution would be needed to make such transactions possible. (1)

"What's Top?" Farmers Ask, As Interest Rates Hit Record Levels

"Too high," farmers said of interest rates in 1968.

At the year's end, a new Federal Land Bank loan cost anywhere from 6 to 7 percent in interest. And the rate charged by life insurance companies on new loans averaged 7.6 percent.

At these costs many farmers postponed borrowing. January 1, 1969, saw outstanding farm debt totaling \$52.0 billion—only 6.1

percent more than a year earlier. That was the smallest annual percentage gain since 1960.

Midway through 1969, though, any farmer negotiating a new loan must have looked back longingly at those '68 rates.

New Federal Land Bank loans in the first week of July 1969 ranged from 7 to 8½ percent. And life insurance companies were charging an average of 8.20 percent on new loans.

The higher price tag on borrowed funds was largely the result of two financial happenings: a tight supply of funds in the open money market and a sharp increase in the prime lending rate of commercial banks.

The open money market is where Federal Land Banks and Production Credit Associations obtain their loan funds through the sale of securities (PCA's supply short term credit to farmers).

Competition from sales of industrial and local government bond issues in this market forced the Land Banks and Federal Intermediate Credit Banks (which discount for the PCA's) to pay record high rates for the money they borrowed.

Federal Land Bank bonds issued July 15, 1969, for example, were priced to yield 8.15 percent. Federal Intermediate Credit Bank debentures issued on the first of that month carried an unprecedented rate of 7.90 percent. By August 1, the rate on FICB debentures soared even further to 8.25 percent.

Meanwhile, back on "the Street," the prime lending rate of large commercial banks was rising, too—from 6.00 percent in December 1968 to 8.50 percent by the end of June 1969.

Farm borrowers didn't feel this blow immediately. Country banks and those which regularly serve rural customers are likely to depend more on local deposits for loan funds and therefore are better cushioned from movements in the central money markets

than larger city banks.

In fact, farmers in many sections of the country paid a lower interest rate on loans in the first half of 1969 than large city commercial banks charged their prime customers.

On the whole, farm borrowers generally seem to have been adequately served in the tightening money situation of first half '69.

Production Credit Associations and Federal Land Banks had ample funds for sound farm loans.

On June 30, 1969, the non-real estate farm debt outstanding from the PCA's was up nearly 12 percent from the same date a year earlier. That from commercial banks was up 6 percent.

The amount of new farm mortgage money loaned by Federal Land Banks in the first half of 1969 was 15 percent greater than the year-earlier period.

There was, however, a 24-percent dip in new farm mortgage money loaned by life insurance firms—mainly because the companies could make higher returns on nonfarm investments.

As a result of the sharp slip in life insurance lending, total new farm mortgage debt owed to all three major lenders—life insurance companies, Federal Land Banks, and the Farmers Home Administration—during the first half of 1969 was 2 percent below the comparable 1968 period. (2)

Family Farming Alive and Well In The North Central United States

The stronghold of our family farming is found in the North Central Region.

Family owned and operated businesses in this area, and in most of the Mid-Atlantic and South Central States, account for not only the bulk of farm numbers but by far the biggest portion of farm sales.

The family farm's supremacy in these States is historically

rooted. The early colonists in the East and the homesteaders of the Midwest established the pattern of family farming more than a century ago. And the pattern has persisted to today.

Family farms are most numerous in areas where mechanization of farm production is at least as well developed as in any other part of the country. Machines that have greatly extended the outreach of the farm family's labor have helped these enterprises grow large enough to succeed in today's agriculture.

In California, Texas, Florida, and a few other States, however, family farms account for less than half total farm sales.

Part of the explanation for the family farm's weakness in these areas again lies in American history.

The plantation system of the South and the Spanish latifundia heritage of California, Arizona, New Mexico, Texas, and Florida, long ago set the scene for the larger-than-family farm.

But the type of farming also is a factor in the development of large-scale farms.

In certain types of farming, obtaining inputs, marketing, and processing have become so closely related to production that their organization is being readjusted to best coordinate these functions. These farms tend to develop into larger business sizes—and the patterns of organization found in nonfarm industries are becoming more prevalent.

This pattern is true of farms producing vegetables, fruits, eggs, and fed cattle—the leading products in California, Texas, Flor-

ida, and a few other States where family farms are less common.

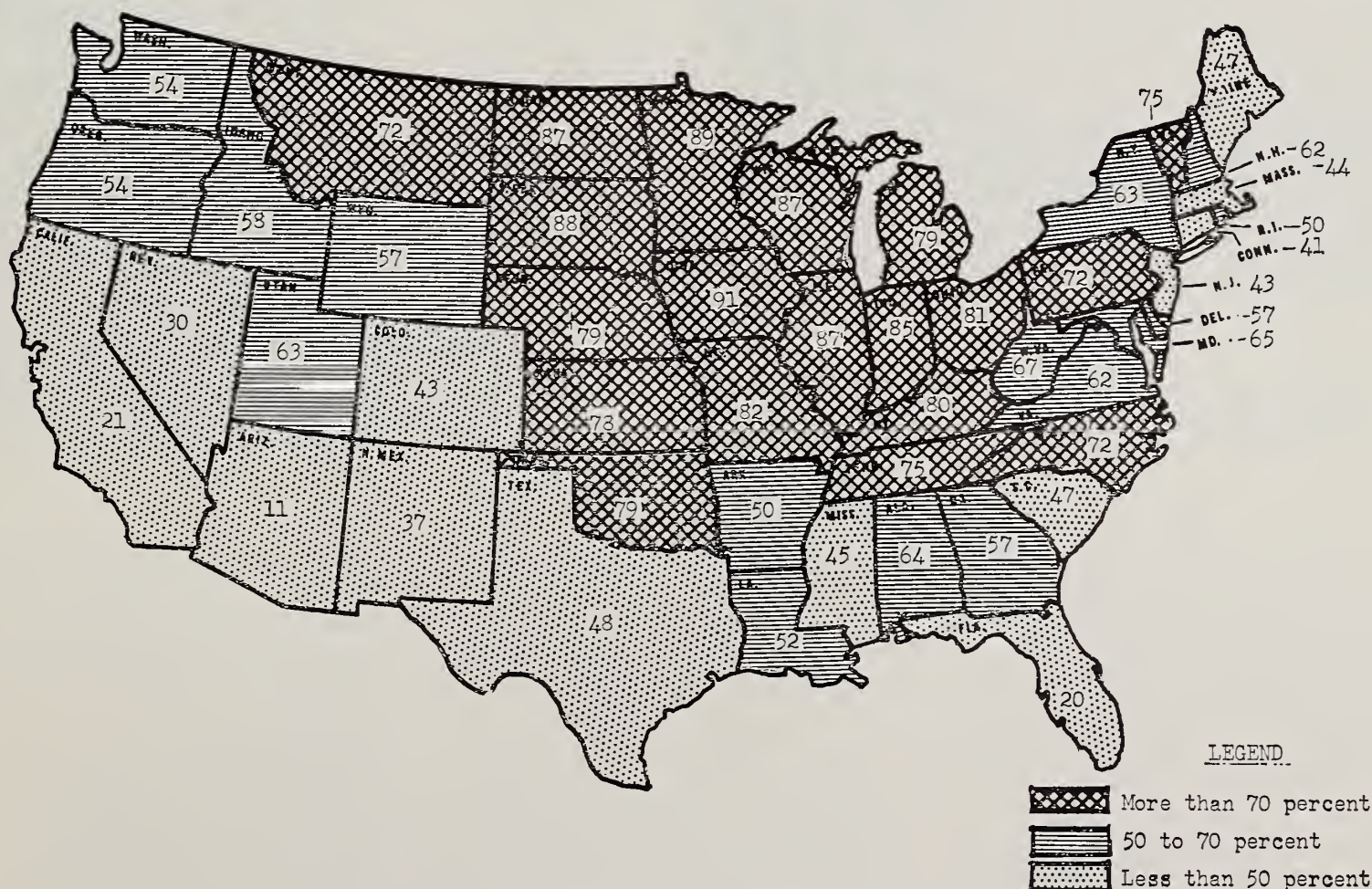
Family farms have been expanding rapidly in the hard core of our commercial agriculture—that is, those units with \$10,000 or more of sales, which today account for 85 percent of total farm marketings.

In 1964, there were 385,000 more family operated farms with \$10,000 or more of sales than in 1949.

These adequate family farms accounted for 46 percent of total farm products sold in 1964, compared with 21 percent in 1949.

During the same period, the share of total marketings of larger-than-family farms did not change. They accounted for 37 percent of all farm sales in 1949; for 36 percent in 1964. (3)

NORTH CENTRAL STATES STRONGHOLD OF FAMILY FARM



Rented Land, Credit Resources, Help To Keep Agriculture Green

"If I had enough money to own all the resources I need for farming, I wouldn't need to farm."

This remark of one farmer reflects the thinking of many. The growing capital requirements of agriculture have led an increasing number of farmers to ask whether it is feasible or even desirable to own all the assets needed to farm.

Many successful farmers no longer strive for full equity ownership of the land, machinery, money, and other resources they use. Instead, they rent many of their inputs; custom hire some of their services; and make full use of credit facilities. Some enter into contract farming arrangements. Others often incorporate to bring in outside capital.

Used properly, these tactics can help a young man get started in farming. They allow for more flexibility in farming operations. They foster farm growth. They put big farm skills, equipment, and savings within reach of the small farm operator.

But they also have their drawbacks. Such as:

Uncertainty. The farmer who now depends on others for various resources may worry that for one reason or other they may be taken away from him. He also may be concerned about unfair use that resource owners might make of their market power.

Higher "tension" operation. The farmer depending on services and resources of others operates at a higher cash level—more cash from all sources flows through his hands—because he must compete with fellow farmers for those resources and services. Topnotch management, therefore, is crucial to success, and tension is increased accordingly.

Loss of capital gains. Appreciation of resource values can be considerable. The farmer who

rents instead of owning all his land therefore stands to lose if values do appreciate. On the other hand, he avoids loss if land values go down. He can hedge this loss, however, by acquiring title to land for investment purposes entirely independent of his farm operation.

Ultimately, each farmer must decide for himself whether the possible gains from the alternatives to full ownership outweigh the drawbacks.

Here again is evidence that successful farming requires more than a green thumb. (4)

Comers in Cattle

They're not No. 1 yet, but cattle feeders in 10 Western States are catching up fast with their counterparts in the North Central Region.

On October 1, 1969, the Western States (including Oklahoma and Texas) had 73 percent more cattle on feed than 5 years earlier. During the same period, the 12 North Central States had increased the size of their feedlot holdings by only a third.

Cattle on feed in the West accounted for about 44 percent of the Nation's total, compared with 37 percent in 1964. Texas accounted for more than half the area's increase.

Cattle feeders in the Western States marketed substantially more finished cattle last fall than a year earlier, while North Central producers boosted their shipments only slightly.

As a result, the West accounted for around two-fifths of all marketings in 1969, compared with only about 37 percent in 1968 and 34 percent 5 years before.

The rapid rise in Western marketings, if it persists, could well put the area atop the North Central Region in terms of sales in the early 1970's. And Texas might just replace Iowa as the No. 1 fed cattle producer.

Iowa had some 1.6 million cattle and calves on feed last October 1—virtually the same number as a year earlier. Texas, in second place, had 1.3 million—48 percent more. (5)

Favorable Livestock/Feed Price Ratios Prompt Heavy Feeding

The quantity of feed concentrates fed to livestock in 1969/70 probably will break the record of 172 million tons fed in 1968/69.

Generally favorable livestock/feed price ratios are encouraging the heavy feeding. Prices of all the livestock and livestock products at the outset of the feeding year last October were higher in relation to feed prices than average October ratios:

Ratio	1963-67 av.	1969
Hog/corn	16.3	22.1
Beef/corn ¹	21.1	25.1
Milk/feed	1.56	1.85
Broiler/feed	² 3.0	3.3
Turkey/feed	² 4.7	5.0
Egg/feed	² 8.6	10.0

¹ Beef steer/corn ratio, Chicago; all others based on U.S. average prices.
² 1964-68 average.

During the past 20 years, the rate of feeding, among other factors, has been influenced by the price of feed as related to livestock prices. There has also been a general uptrend in the rate of feeding concentrates per animal.

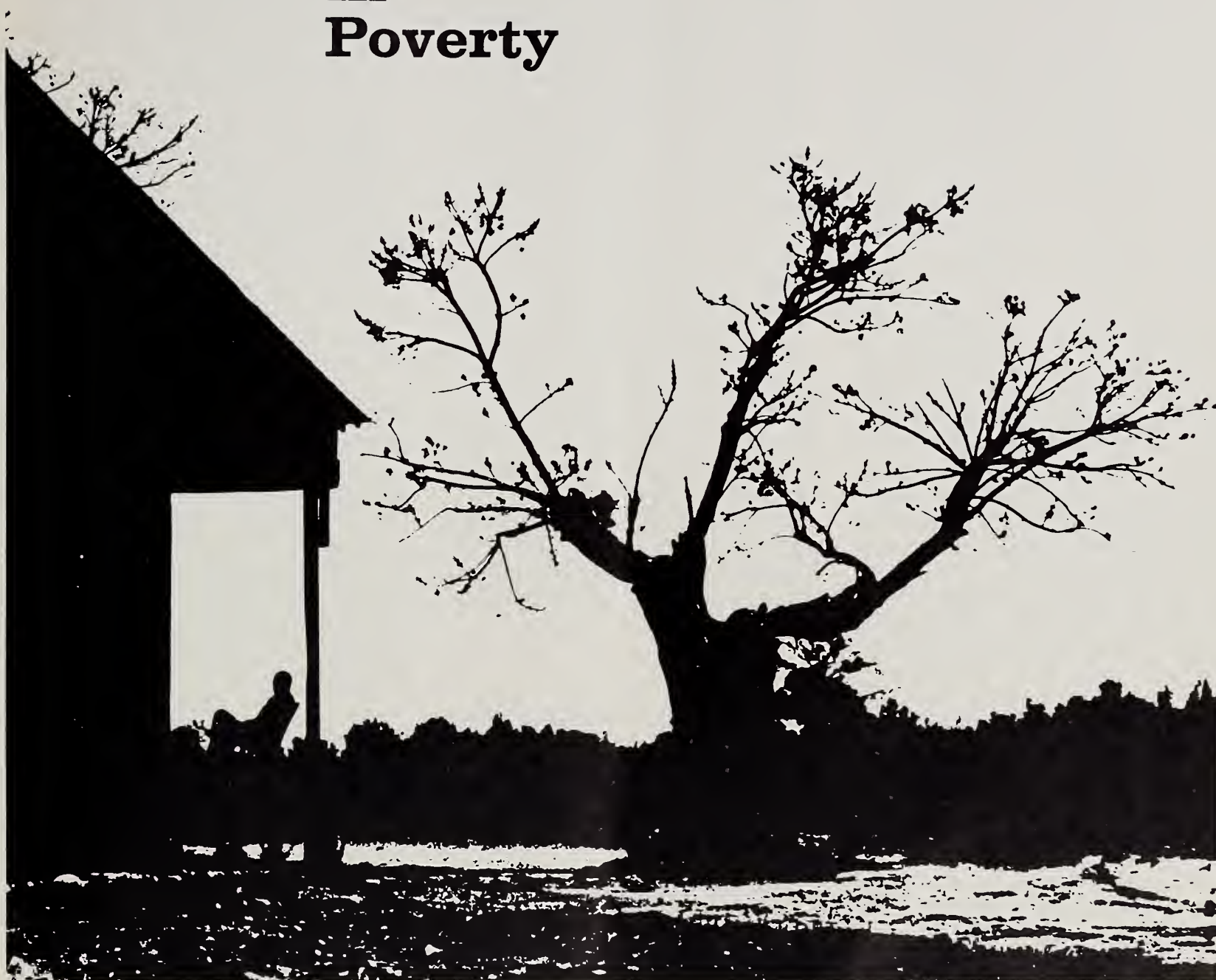
In 1968/69, the ratio of livestock prices to feed prices was the highest in more than 20 years. The rate of feeding per animal unit responded by increasing from .91 ton in 1967/68 to .94 ton in 1968/69—close to the previous high of 1965/66.

Livestock prices are expected to continue strong in relation to feed prices in 1969/70—and the rate of feeding per animal unit is expected to continue at a high level.

The supply of feed concentrates for 1969/70 was estimated in December at 263 million tons—7 million more than last year and 19 million above the 1963-67 average.

Allowing for the increase in grain-consuming animal units, the total feed concentrate supply per animal unit in 1969/70 would be about the same as in the last 2 years and also near average. (6)

People in Poverty



How can you put yourself in the shoes of a poor man from the Ozarks, the Mississippi Delta, or South Carolina Coastal Plain area when he doesn't wear any shoes?

Who are the rural poor? Why are they poor? And what are their basic needs?

These are some of the questions asked and answered by Economic Research Service investigators in

studies of three rural areas where poverty has been both persistent and severe.

The areas studied were the Mississippi Delta, the Ozarks, and the Coastal Plain of South Carolina.

Using a classification system based on income level and number of members of the household surveyed, families in the three areas were classified as the

“poor” and the “nonpoor.”

On this basis, the Delta region has the largest proportion of poor families, the Coastal Plain is next, and the Ozarks last. Ozark poverty differs from poverty in the other two regions in that it is less widespread and comparatively less extreme.

About three-quarters of the poor in all three areas in 1966 were either farm laborers, small-

scale farmers, or not in the work force.

In the Delta, for example, 82 percent of the poor fell into one or more of these categories; in the Ozarks, 84 percent; and in the Coastal Plain, 76 percent.

Those not working, either because of old age, disability, or lack of jobs accounted for the bulk of the poverty in each area.

In the Delta, the farm laborer group also presented a major economic problem. In the Ozarks, it was the older retired. And in South Carolina, the operators of small farms.

Three-fourths of the poor household heads in both the Delta and South Carolina had less than an eighth grade education. In the Ozarks, about half the poor household heads had reached the eighth grade.

Among household heads, there were proportionately many more white females who were poor than white males.

Among blacks, poor household heads were about equally distributed between men and women.

Poor Negroes outnumbered poor whites 7 to 3 in both the Delta and the Coastal Plain region. But because of a much smaller percentage of blacks in the Ozark population, the majority of Ozark poor were white.

Compared with whites, Negroes were more likely to be farm laborers or among those involved in unskilled work.

In South Carolina, Negroes were more likely to be subsistence farmers.

Recognized needs in each of the study areas include:

Delta. Surveys indicate desirability for improving per capita income, better health facilities, and special child and family health care. Because of the low educational level, basic programs are also needed to raise literacy levels and to develop skills for nonagricultural occupations.

Southeast Coastal Plain. Because the poor in both the Delta

and Coastal Plain areas share many age and educational characteristics, Delta problems apply to the Coastal Plain area needs as well.

However, ways are needed that will be specifically tailored to help Southeast Coastal Plain tobacco farmers and others make an adjustment to impending mechanization.

Ozarks. The Ozark poor tend to be older in age and higher in educational level than the poor in the other two regions. Thus, programs emphasizing geriatrics, family health care, and income assistance are especially needed.

Small farm operators—particularly the “boxed-in” group 45 years and older—probably need credit benefits and managerial assistance far more than they need the usual programs to upgrade educational levels and income.

In each of the areas there is a need to help develop the area’s potential for industrial, recreational, and other nonagricultural growth. (7)

“Fiscal Zoning” Helps Solve Some Rural Problems, Creates Others

The business of government is costly—even in small local areas. But rarely does the property owner willingly part with the money to pay for it—especially when he’s stretching his budget to buy more tangible things.

To pay for increased costs and services, many local governments already have reached their legal bonded debt limits and they are taxing their property-owning citizens to the fullest extent of the law.

In areas where these limits have not yet been reached, social or political factors sometimes make necessary tax boosts difficult, if not impossible, to obtain.

Result: A tax gambit commonly known as “fiscal zoning.” Some local governments that

have difficulty in balancing their fiscal budgets “over-zone” for industry and commercial development.

That is, they allow for greater industrialization and commercialization of an urban fringe area than would normally be expected. They thus generate tax revenue from property which has relatively low service requirements.

Some local governments also zone for large lots only, limit or rule out construction of apartments, restrict or prohibit mobile homes, and impose excessively high subdivision and building code standards.

One effect of such measures is to exclude the moderate-to-low-income housing (which is thought to require the addition of costly educational facilities) and to encourage the construction of single family homes in the higher priced bracket.

Such shifting of benefits and burdens from one jurisdiction or one community to another may solve fiscal problems. But more often it creates other problems, such as urban sprawl.

“Certainly,” says a recent report of the American Society of Planning Officials, “there are many improvements that can be made in our system for regulating land use. But until we make substantial progress in rationalizing tax and fiscal policy for local government, fiscal zoning will continue to plague all land use regulation.”

What this suggests is that local governments need to plan—and zone—land use for broader purposes than just easing budget difficulties.

Despite some disenchantment with zoning, it still is one of the most effective means for regulating land use.

With better knowledge of its limitations and the way it affects community development, local governments can continue to use zoning to good advantage and to everyone’s benefit. (8)

Fractional Assessments Surprise New Taxpayer But Cut Complaints

It frequently comes as a big surprise to the happy new homeowner to discover that his \$30,000 real estate investment is valued at only \$15,000 or less for tax purposes.

Yet when the tax bill comes—based on the lower assessment—Mr. Propertyowner rarely complains about the undervaluation.

After all, he may reason, he's better off than he would be if he were paying taxes based on a \$30,000 valuation.

But the appearance of saving may be deceiving.

Assuming all the property in his community is assessed on the same basis, Mr. Propertyowner would pay out no more if taxed on full market value since the tax rate would probably be reduced proportionally.

Fractional assessment of real

estate property is contrary to law in many areas.

But the courts often uphold such undervaluation on the grounds that it is not unfair as long as all properties are assessed at the same percentage of their value.

And tax assessors generally agree that fractional assessments lessen complaints from taxpayers.

Thus, 1 million parcels of real estate sold in 1966 were assessed at an average of 31 percent of their market value.

This fractional assessment ranged from 4.6 percent of the market value in South Carolina to 77.5 percent in Alaska.

That same year more than 60 percent of all locally assessed real estate was nonfarm residential property assessed at \$236 billion for tax purposes.

And farm real estate was assessed at \$43 billion.

The tax situation is further complicated by lack of compara-

ble market values on which to base the assessments.

Some classes of property, such as residential property, enter the market quite often. Others, such as industrial or commercial property, do not.

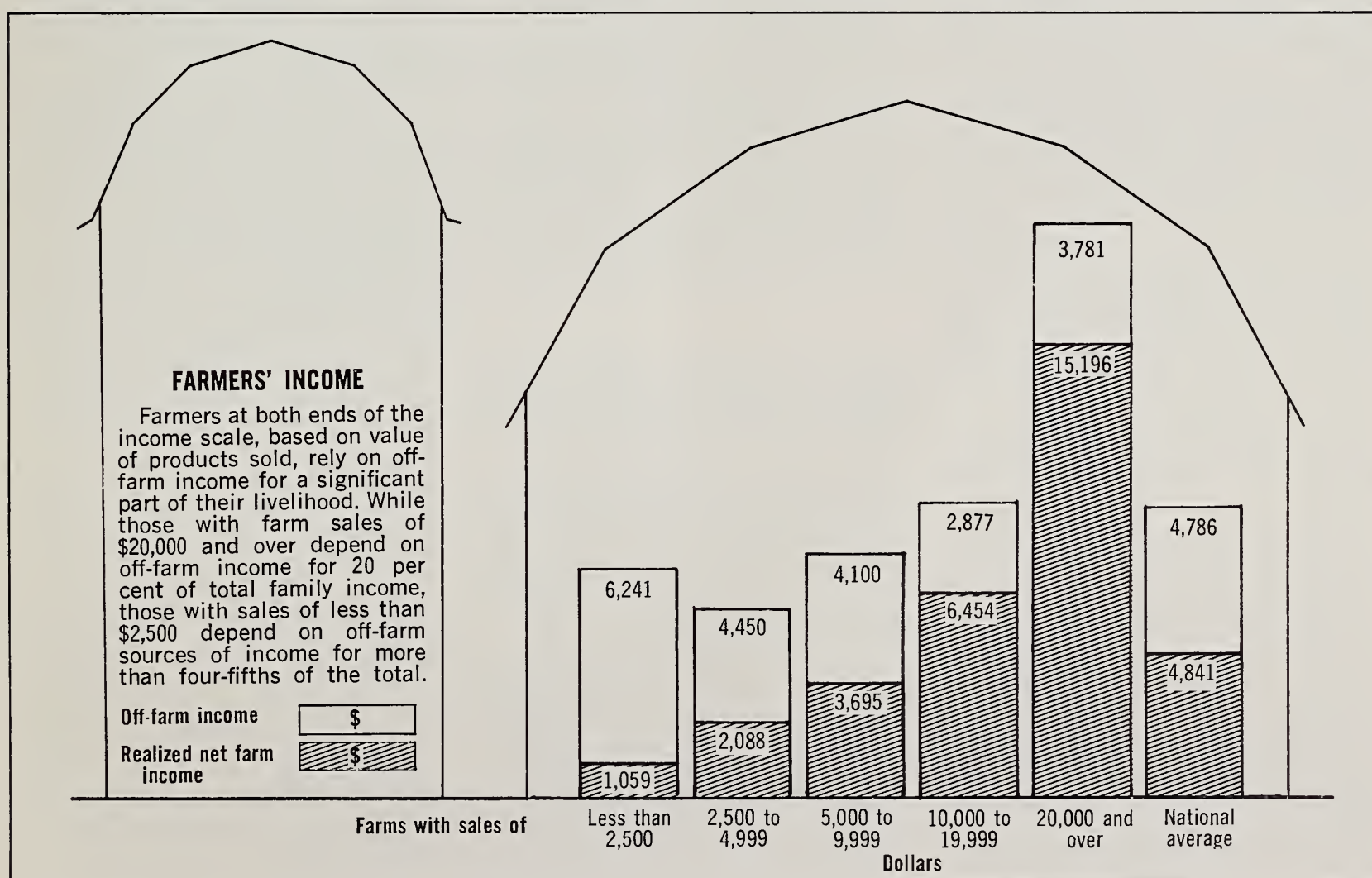
Railroads and public utility properties are seldom sold. As a result, they are valued on the basis of cost, replacement value, capitalization of income, market value of stock, and other indicators of value.

A look at total figures reveals that in 1966/67 property taxes furnished \$26.3 billion to State and local governments.

Property taxes provided over 87 percent of the tax revenues of local government.

But they provided only 3 percent of the tax monies that went to State governments.

Real estate—mainly land and buildings—made up the bulk of all property tax assessments during 1966/67. (9)



Are Local Governments Efficient? Oregon Study Reveals Variations

One Oregon town in 1964 paid \$6.76 per person for local government, public works, police, parks and recreation, and library services.

Another town in the same State paid \$80.64 per person for much the same services.

These towns represent the extremes in a study of 224 incorporated Oregon towns.

But why such a wide variation? Are the people in one town getting a tremendous bargain?

Are the people in the other town grossly overpaying for the same services?

According to the Committee for Economic Development, efficiency in the provision of services is an important problem facing many local governments.

And—since four-fifths of the Nation's local governments are in rural areas—that makes the problem basically a rural one as well.

The cost of providing public services, like the cost of everything else, is going up. And along with it, so is spending of local governments.

The amount of money these governments spent per person for parks and recreation and police protection increased over 100 percent in the 10 years between 1953 and 1963.

During the same period, per capita outlays for fire protection and sanitation rose more than 50 percent.

The trend in local government is to provide more and better services. This accounts for some of the increased costs.

But as more money is allocated, efficiency becomes more and more crucial.

Effective means of measuring the output of many local governments have not yet been developed.

One starting point, however, is

to examine factors thought important in explaining variation in the amount of money spent per person.

For Oregon communities, it was found that a 10-percent increase in population density would tend to decrease city administrative and police expenditures by 7 percent and 5 percent per person, respectively.

No similar relationship was found for fire protection, however.

On the other hand, an increase in assessed property values of 10 percent would tend to raise public works expenditures more than 3 percent per person.

One suggested way to improve the efficiency of local government might be to consolidate the police and fire departments.

(Together they accounted for 46 percent of the operating expenses of Oregon cities.)

Another suggestion would be to combine the management services of several communities.

Still another alternative would be to lease management services from private sources.

In any case, efficiency should be a goal of all local governments.

It could result in more and better public services while at the same time freeing money and resources for other purposes. (10)

Minnesota Rural Incomes Rise As City-Industry Limits Push Out

On a map of Minnesota place a drop of ink on every major metropolitan center. Watch the ink spread tentacle-like into the surrounding areas as it is absorbed into the porous paper.

This is one way of visualizing how the influence of industrial-urban concentration has spread into Minnesota's rural economy.

In 1949 Minnesota's rural farm income levels were largely determined by the local agriculture.

Mining and forestry were im-

portant in five or six areas, but even in those areas—as elsewhere in the State—farm size, productivity of the land, and age and education of the rural farm population were the crucial economic factors.

And in no areas did rural industrialization or proximity to large urban centers play as important a role.

These historical findings are based on an analysis of some 22 economic indicators, including characteristics of the rural population and of the labor force, degree of industrialization, farm size and type, capital availability, urbanization, and natural resources.

By 1959, using the same indicators as a basis for analytical conclusions, agriculture was still important in determining rural and farm income levels in Minnesota.

Agriculture's impact on the rural economy, however, appeared to have diminished as areas became urbanized and industrialized.

Farm size and productivity of the land were still significant factors. But, age, education, and other population characteristics became less significant.

Supplanting them as important determinants of rural and farm income levels were the many facets of industrial-urban development—including the changing structure of industry and proximity of rural areas to metropolitan areas.

Industrial-urban growth, however, does not appear to have occurred either randomly or uniformly over the State.

Instead, it seems to have spread in ever widening circles from existing metropolitan centers.

Thus, in a rural area adjacent to a large metropolitan center, some industrial-urban growth will continue unaided, but in remote rural areas such growth would have to be stimulated or induced. (11)

They're Still Leaving the Farm, But Rate's Slowed Since Fifties

Some people move to the city. Some move to the country. Others stay where they are. Some people die and others are born.

As a net result, there were 421,000 fewer people living on farms in April of 1968 than a year earlier. And the total farm population was estimated at about 10.5 million.

Between April 1967 and April 1968, about 749,000 farm people of all ages either moved away from farms or stopped farming.

But at the same time, 268,000 people were moving onto farms or starting to operate farms they already lived on.

The net loss in farm population through this migration and reclassification of occupation was 481,000 people—the smallest loss recorded for a single year since the mid-1950's.

And the loss figure was further reduced because there were 60,000 more births than deaths among farm residents during the same period.

This might suggest a continuance of more christenings than burials on the farm.

But, in reality, the crude birth rate (births per 1,000 total farm population) has been declining steadily and now appears to be somewhat below that of the non-farm population.

The birth rate decline may possibly be due to the fact that many young couples have moved away from the farm in recent past years, while older people beyond child-bearing age have stayed on in a number of areas.

Aside from the ratio between births and deaths, among rural counties as a whole there has been a sharp slowdown in net movement of people to cities since 1960.

During the decade between 1950 and 1960, an annual average of about 460,000 more persons

moved from rural counties to urban counties than those who moved from city to country.

From 1960 to 1966 this figure was cut to a net of about 88,000 annually—only a fifth of the average net loss of the 1950's.

The changing trend was particularly noticeable in States that had previously shown the most severe losses—Kentucky, Tennessee, Alabama, Mississippi, and Arkansas, for example.

Apparently, major shifts of workers out of cotton farming and coal mining have been completed, and local employment off the farm improved enough in these areas to keep people from moving into urban areas at the previous rate.

By contrast, significant numbers of people are still leaving many rural parts of the Central Plains, Corn Belt, and Rocky Mountain areas.

The number of persons living on farms in rural areas of the United States was estimated to average almost 10½ million in April of 1968.

This represents an estimated decrease of 421,000 since April 1967, a further continuation of a downward trend in farm population that has resulted in a decline of approximately 5 million farm residents since 1960. (12)

How To Age Gracefully: Or 10 Years in the Lives of Older Men

When a teenager drops out of school, runs away from home, and generally withdraws from his previous social environment, he's called a "hippie."

But what do you call a 65-year-old retiree who's also disengaged from family and friends and who's generally withdrawn from society?

Most hippies spend only a relatively short period of time "doing their thing," and can be expected to rejoin society and become con-

tributing citizens soon thereafter.

But the withdrawal of many oldsters may cover at least a decade. And once they have withdrawn, all too often it's for keeps.

In a study of 47 healthy men whose ages ranged from 65 to 91, an attempt was made to determine how dropping out affected their longevity.

The men were rated according to the way they planned and varied nonroutine activities (or didn't), their current outlook on life, their attitude toward their routine daily living pattern, and their social interaction with individuals or groups outside their families.

In 1957 half the group of volunteer subjects for study were involved beyond their immediate family circle in such things as visiting, clubs, church, concerts, and other community activities of a similar nature.

Half expressed feelings of satisfaction, interest, contentment, and enjoyment in living. Only about a fourth were really finding life burdensome.

Forty-two percent of the group had new, complex activities and plans to report, while only 11 percent were satisfied just to carry on at the daily chore-and-routine level.

Ten years later, the 23 surviving members were again rated and the original ratings of those who didn't survive were examined.

In general, those who died were rated significantly lower in 1957 on all factors than were those who survived.

And those who did survive had managed to maintain a reasonably steady and consistent course of activities, social relationships, and general outlook over the 10-year period.

The data also indicated that the older person apparently increased his odds of survival if he had enjoyed warm friendships and a secure social environment in his earlier adult life. (13)



The Sugar Scene: Superfine

Much more sugar is marketed in the United States today than in 1948. Because of quotas, most of the increase has come from U.S. cane and beet fields.

Satisfying the sweet tooth of today's generation is more complicated (though perhaps less precarious) than it was in bygone days when honeycomb robbing was a routine way of getting supplies.

Over the years sugarbeets and

sugarcane have emerged as the main source of that certain something that satisfies man's craving for a sweet taste—although sweetness can be wrung from cornstalks, maple trees, sweet sorghum, and chemicals as well.

For several hundred years, sugarcane—brought to tropical America from the South Pacific, via Europe—was the single commercial sugar source (and the New World's leading colonial export after precious metals).

But today, beet sugar—which

was developed in Europe in the 19th century—is not so far behind.

About 9.6 million tons of refined sugar were distributed in the United States in 1967. Sugarcane refiners distributed about 6.8 million tons (70.3 percent); beet sugar processors, 2.6 million tons (27.4 percent); the importers of direct-consumption sugar, 0.2 million tons (1.8 percent); and the mainland cane sugar mills, 0.1 million (.5 percent).

Since 1948 about two-thirds of

the average annual increase in sugar marketed in the United States has come from domestic areas, and only about one-third from imports. This is due to the effect of numerous amendments to the sugar quota laws which since 1956 have assigned more than half of the increases in U.S. sugar consumption to domestic areas.

The quantity of sugar supplies from all U.S. production areas has increased since 1948 except from Puerto Rico, where production has declined, and from the Virgin Islands—where it has ceased.

The largest increase in tonnage has come from the domestic beet sugar industry which supplied about 3.1 million tons in 1968—almost double the 1.7 million tons supplied in 1948.

Mainland sugarcane accounts for the largest percentage increase since 1948. About 1.2 million tons of Mainland raw sugar were added to our sugar supplies in 1968 compared to only 0.5 million tons in 1948. Florida, particularly, is responsible for the jump in Mainland cane supplies.

Almost all of the sugarbeets produced in the United States are grown by independent farmers for sale to processors—unlike the sugarcane industry where the same company often grows and processes sugarcane.

The sugarbeet refining industry is mostly located west of the Mississippi—close to the farms where the beets are grown—because beets are perishable and bulky and therefore expensive to transport over long distances. (This helps explain why transporting costs for refined beet sugar are generally higher than for cane sugar. Cane sugar refineries, using raw sugar much of which is imported, tend to be located near large metropolitan centers where a good part of their product is consumed.)

In 1967 there were about 60 beet sugar refining mills operat-

ing in 18 States—about a third of them in California and Colorado, and only about 12 percent east of the Mississippi.

Eleven companies run the plants, and the six largest produce nearly nine-tenths of all U.S. beet sugar. This means that beet growers have few alternative buyers for their beets.

Growers' prices—usually set forth in an annual contract between growers and processors—are determined by a formula based on net returns to processors.

These contracts are usually entered into before the beets are planted. They generally stipulate acreage, the seed to be used, rotation practices, use of fertilizer, and time of harvest, as well as the formula for figuring out growers' payments.

The U.S. sugarcane industry is located in Florida and Louisiana on the Mainland, and in Hawaii and Puerto Rico.

Most Mainland sugarcane is produced by companies which also own and operate the processing mills. This is particularly true in Florida where the industry was established much later than in Louisiana.

The sales contracts between processors and the relatively few independent growers usually involve only growers' prices, and are less formal and extensive than sugarbeet contracts.

In Hawaii, too, the growers and processors are usually part of one company.

Most Hawaiian raw sugar is shipped to a Mainland refinery owned by Hawaiian producers and operated as a cooperative.

Puerto Rico—the only major domestic sugar producing area where production has declined since World War II—has a large number of independent growers who sell their cane to processors.

Growers' prices are determined in much the same way as in Florida and Louisiana, although the high cost of shipping raw sugar

to the Mainland makes the ratio of the price of cane to the price of sugar somewhat lower than for the Mainland. (14)

Manufacturing Milk Now Has Something To Live Up To, Too

The Department of Agriculture and the Department of Health, Education, and Welfare have together come up with some recommended standards for the milk that never sees the inside of a milk bottle—and, up to now, hasn't had any grading standards uniformly applied.

The recommended standards are now set up for voluntary State adoption and enforcement. And along with the standards comes a sample "State enabling act," for use as a model by States which now lack authority to regulate the quality of manufacturing milk.

Manufacturing milk—as opposed to fluid grade or bottling milk—is used in making butter, cheese, nonfat dry milk, and other dairy products.

According to USDA estimates, about 70 percent of all milk sold to plants and dealers in 1968 met the standards for bottling milk (a rise from the 61 percent in 1950). The proposed new standards, when adopted and enforced by the States, would ensure that the other 30 percent—manufacturing grade milk—is of an acceptable quality and processed in a sanitary manner. (15)

In the Wind for Alfalfa Dryers Is an Air Separation Technique

Alfalfa dehydrators may soon find themselves dividing—the alfalfa plant, that is—and conquering new markets.

A new technique of air separating the leaves from the stem has been successfully field tested

MARKETING

for two harvest seasons by the Agricultural Research Service, which is satisfied that the new technique makes it possible to produce feed products better adapted to the nutritional needs of different animals.

Poultry and swine rations, for example, require a product high in protein, vitamins, and xanthophyll but low in fiber. Ruminant animals on the other hand can utilize a high fiber product with both a low protein and xanthophyll content.

Since the leaves of the alfalfa plant carry the bulk of the protein—and most of the fiber is found in the stems—it seems logical to separate them for different livestock feeds.

But is it economically feasible?

The market potential for these new products largely depends on the added expenses involved in separation, and whether these costs will make the end products too expensive to compete for the business of feed manufacturers and livestock feeders.

To be acceptable, these products must be competitively priced with substitutes and available in relatively stable quantities throughout the year.

A recent Economic Research Service study used the economic

engineering model approach to synthesize dehydrating costs in order to determine the economic feasibility of producing separate products.

Model plants ranged in size from one with an evaporative capacity of 10,000 pounds of water per hour to one with a 33,000-pound capacity.

Results of the study—based on a per ton comparison of the combined production costs for models separating and not separating—indicate that separation of alfalfa appears to be economically feasible. The added production costs are not prohibitive, the advantages are great, and the price should be right.

Dehydrated alfalfa products can be tailormade for different livestock feed formulations. Air separation also permits a more flexible production schedule during the harvesting season.

In model plants without separating equipment, the smallest plant—with a production capacity of 4,950 tons per year—would require an investment of about \$190,200 for equipment, facilities, and land, (or \$38.42 per ton). Comparable costs for the largest model—producing 17,325 tons a year—would be \$321,400, or \$18.55 per ton.

Operating costs for these plants ranged from \$18.37 per ton for the smaller plants down to \$11.01 for the largest.

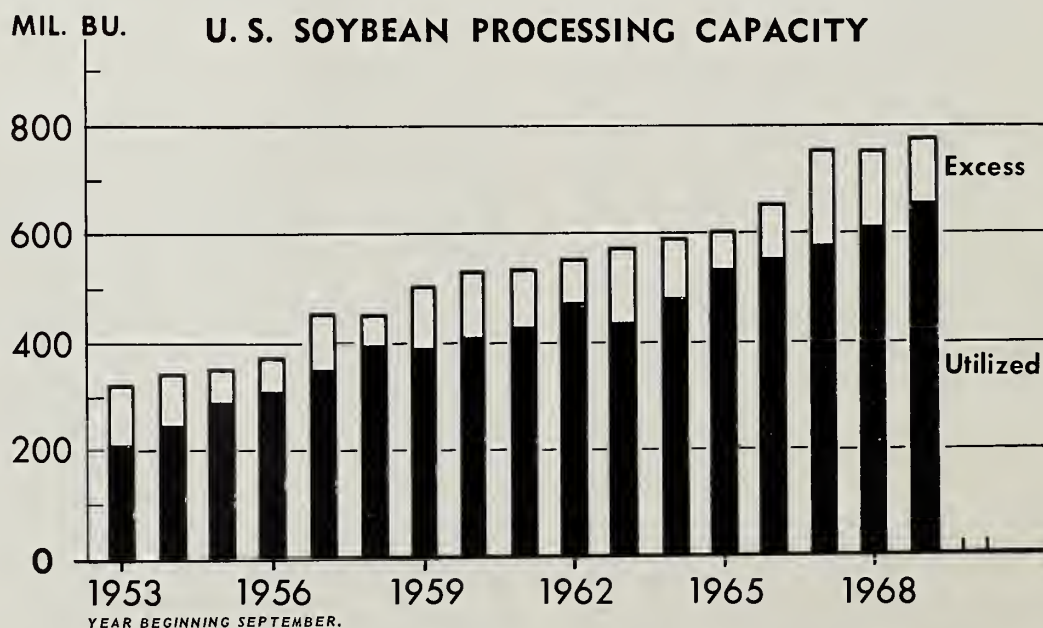
The cost of additional equipment and working space necessary for the separation process ranged from \$64,000 for the smallest model plant to \$81,500 for the largest. Separation costs per ton may increase production costs from \$1.03 in the largest plants to \$3.24 in the smaller volume plants.

Storage costs—a major consideration in alfalfa dehydration—were slightly higher with separation because additional storage and conveying equipment were needed. Inert gas storage is used to preserve the quality of the dehydrated product.

Models not separating had per ton storage costs ranging from \$5.49 in the largest to \$7.49 in the smallest. Comparable models separating alfalfa had slightly higher costs ranging from \$5.75 to \$7.69.

Total costs per ton—including storage for models not separating—ranged from \$22.87 in the smaller down to \$14.25 for the larger. Separation models' costs were \$3.35 per ton higher in the smaller down to a low of \$.47 in the larger. (16)

THE U.S. SOYBEAN INDUSTRY may operate at as much as 86 percent of its estimated processing capacity in the marketing year that will end August 1970, compared with 81 percent in 1968/69 and the longrun average of 80 percent. The industry has expanded its processing capacity rapidly—from 320 million bushels in 1953/54 to an estimated 770 million in 1969/70. This is the main reason why plant capacity has exceeded the volume actually processed over the years by about 20 percent despite the sharp rise in soybean production and a decline in the number of mills. (17)



Tobacco Marketed in 1969/70 To Be Slimmer Despite Crop Gain

The U.S. tobacco crop now being sold is about 5 percent larger than last year's, which was the lowest in 11 years. It is, however, 3 percent below the forecast amount because heavy rains in Georgia and the Carolinas cut the flue cured crop yield.

About 923,000 acres were harvested this season—5 percent more than last year.

Smaller carryovers have reduced supplies available for the 1969/70 marketing year. And despite record flue-cured prices, the weaker burley market is bringing more tobacco under loan this season. Prices for the season will probably average 2 to 3 percent above the 1968/69 level.

Higher average farm prices and the larger volume of tobacco marketed pushed farmers' cash receipts from tobacco in calendar year 1969 up to \$1.3 billion, compared with \$1.2 billion in 1968. Most of the increase is due to the higher volume of flue-cured tobacco selling at record prices.

Tobacco sales are likely to be about the same in 1970 as last year. Due to the higher support level required by law, the average price for tobacco may be a little higher. (19)

Part of Oil Stockpile Unloaded As Less Emergency Need Foreseen

We squirreled away vast vats of palm oil, coconut oil, castor oil, and sperm oil in the late 1940's in case of a national emergency or a cutoff of our supplies. (All of these commodities are imported except some castor oil produced from domestic beans.)

These oils—ingredients that were vital in production of many essential items ranging from military equipment to processed foods—were stockpiled under the

provisions of the Strategic and Critical Materials Stock Piling Act of June 7, 1939.

In the early 1960's we had in our reservoirs about 224 million pounds of castor oil, 266 million pounds of coconut oil, 38 million pounds of palm oil, and around 23 million pounds of sperm oil.

But the times have changed, and the need for the oils has changed, too.

For example, synthetic rubber production no longer calls for coconut oil, and palm oil has been supplanted by a tallow solution for treating steel.

The impact of these changes was foreseen in the late 1950's. And at that time, the General Services Administration—the agency responsible for buying, storing, inspecting, processing, and disposing of strategic stockpile materials—began to take steps to reduce oil supplies in the United States.

In order to dispose of stocks, GSA has to submit a plan to Congress assuring orderly liquidation so that sales won't disrupt normal trade of the product or depress prices. Once the plan is approved, it is published in the Federal Register half a year before disposal begins.

Coconut oil holdings were liquidated in 1964, and palm oil in 1965.

However, we still have about 68 million pounds of castor oil (still used in such industrial products as drying oils, resins, plastics, lubricants, and fatty acids).

GSA wanted to liquidate an additional 46 million pounds of our stockpiled castor oil in 1967 so that only about 22 million pounds would remain in the strategic reserve—roughly 9 million in the form of oil, and 5 million as sebatic acid. But the request is still pending.

Meanwhile (in July 1969), the Office of Emergency Preparedness requested that 50 million pounds of castor oil be left in re-

serves—28 million more than the 1967 objective.

So GSA may still have some buying and selling of castor oil ahead—particularly since most of the oil was bought in the early fifties.

We still have the 23 million pounds of sperm oil, too—with no present plans to dispose of it. (18)

Largest Food Processing Firms Not Always Biggest Profitmakers

Food processing firms may get larger and diversify the line of food (and nonfood) products they manufacture. But no guarantee of increased net profits goes along with such structural changes.

In fact, the structure of a firm's primary industry probably doesn't explain more than about 20 percent of the differences in the magnitude of profit among food firms. Strikes, military involvements, fluctuations in raw material prices, weather, company conduct, and human frailties—these are other, less predictable factors that also affect amount of profits.

A recent ERS study found that the largest food processing firms were not generally the most profitable. Actually, among those sampled, the next to largest were typically most profitable.

Likewise, more diversified firms were not necessarily more profitable than firms that concentrated on fewer products. The possibility that diversification might increase profitability over time could not be ruled out, however.

And there did seem to be some possibility that gross margins, if not net profits, might increase with growth in size and greater diversification.

The greatest impact of product diversification was upon the stability of profits. Firms with extensive product diversification had the greatest stability. (30)

Now that cyclamate is out of the picture, what sweeteners will be used in low-calorie foods? Sugar is one possibility. But others, entirely new, may be discovered.

Saccharin, the oldest of the noncaloric sweeteners, is now the only noncaloric sweetener on the retail market.

In October 1969, the Food and Drug Administration removed cyclamate—the only other noncaloric sweetener of commercial importance in the United States—from the list of items generally regarded as safe for use in food products.

The FDA action banned the use of cyclamate in foods and beverages. Originally, a recall was issued for existing supplies of cyclamate-containing beverages by January 1, 1970; cyclamate containing foods by February 1; and drugs for therapeutic use by July 1.

(The timetable for phasing out certain food items containing cyclamate is under review, however.)

These orders followed a laboratory report indicating that very large doses of cyclamate fed to rats over a long period of time produced cancer in their bladders.

Cyclamate, of course, was a fairly new noncaloric sweetener. Commercial production began only in the 1950's.

Saccharin has been in use since early in the twentieth century. But prior to the 1960's, its consumption appears to have been confined largely to persons (such as diabetics) who for reasons of health could not use sugar. During periods of wartime shortages of sugar, however, saccharin's use became more widespread.

It wasn't until the introduction of mixtures of saccharin and cyclamate in about 1960 that sales of these two sweeteners began to soar. The most rapid growth was in soft drinks and beverage bases—which accounted for nearly 70

**News
on Lo-Cal
Sweeteners**



percent of total cyclamate use.

Use of cyclamate in all foods is believed to have totaled approximately 17.5 million pounds in 1968 and nearly 20 million pounds before the ban in 1969.

Now that cyclamate is out of the picture, what sweetener will be used in low calorie foods?

Manufacturers of low calorie soft drinks are attempting to replace cyclamate with other sweeteners.

At first glance, it would seem that the outlawing of cyclamate would prompt a big surge in per capita sugar consumption. But most of the noncaloric substances consumed in the United States seem to have been used by people who would not have used sugar in any event.

During 1960-67, per capita sugar consumption averaged 97 pounds per year—with no apparent trend. In 1968 per capita consumption increased to 99.3 pounds—in the face of competition from cyclamate. Nearly the same level is in prospect for 1969.

The sweetness of the cyclamate used in 1968 was equivalent to about 2½ pounds of sugar per person. In addition, saccharin consumption, to the extent of 2 to 3 pounds per person sugar sweetness equivalent, used in combination with cyclamate may also be affected by the loss of cyclamate.

Previous studies indicated that the introduction of cyclamate reduced the use of sugar to the extent of roughly one-third its sweetness equivalent. If this same rate of substitution occurs as cyclamate is withdrawn, sugar consumption will increase by roughly 1 pound per person.

Private industry and government have been conducting a considerable amount of research directed toward the discovery of new sweeteners or the improvement of existing ones. The ban on cyclamate will, no doubt, spur these efforts.

There are a number of non-

nutritive substances other than saccharin and cyclamate which are known to taste sweet. However, most of them are considered toxic and none have been approved for use in food products in the United States. One such product, dulcin, is used to some extent in certain other countries, however.

A recent discovery by USDA's Agricultural Research Service may eventually provide a safe replacement for cyclamate.

ARS has discovered dihydrochalcones, intensely sweet substances obtained from citrus waste. Two of these substances are about 150 times as sweet as sugar and the third 2,000 times as sweet.

None of the dihydrochalcones is now being produced or marketed commercially, although they are being tested for their suitability for use in food products. Such use has not been approved by the Food and Drug Administration.

The *dihy's* are reported to have no objectionable flavors. The onset of sweetness is relatively slow but it lasts longer than that of sugar or saccharin. (20)

Petroleum Byproduct Being Used To Fatten Up Poultry, Livestock

Rations for a select few European quail, chickens, and pigs now include proteins produced as a byproduct of refining oil.

If these animals thrive on their diet, American consumers may someday eat fried chicken and other livestock products from animals fed on petroleum proteins.

The petroleum industry began to produce protein by using single cell organisms (yeast or bacteria) to dewax crude oils that were high in paraffin. As these microorganisms gobble up the wax, they make protein. Now the oil industry is looking for ways to make their proteins fit into human foods.

The first market envisaged for petroleum proteins, however, is in livestock feeds. Pilot scale production plants have been set up—two in Europe, one in the United States, and one reportedly in Russia.

Japan is getting into the business, too—with a 60,000-ton-per-year plant that will produce a feedstuff containing 60 percent protein. The target date for completion is early 1970.

The European oil firms are conducting trial feedings—and report their petroleum proteins have proved nontoxic to several types of small animals. International firms in the United States are also conducting toxicity trials with mice and rats—but no results are reported yet.

Toxicity is only one part of the problem, however. Cost is another.

In the U.S. livestock feed market, petroleum proteins will have to compete on a price basis with oilseed meals and various agricultural product residues—such as distillers' yeast and whey. At present, projected prices for petroleum proteins are quite high, compared with the prices of the agricultural protein sources.

Another drawback of petroleum proteins, from the livestock feeders' point of view, is their inadequate amino acid balance. They need to be used with some other protein source or primarily as a source of vitamins. Thus, it seems unlikely that petroleum will replace agricultural protein sources in the near future, though it may become a supplementary source of protein for animal feeds.

And it'll be a long, long time before human beings get their protein directly from the oil refinery.

Before this event, petroleum proteins must undergo extensive nutritional, toxicity, and acceptance testing. Finally, a consumer education program would be necessary. (21)

Soap Slips From Laundry Favor But Wins Hands Down for Hands

When company comes, the search is on. Have the linen table napkins been buried at the bottom of the basket since their last use and laundering?

Probably so, because paper napkins have just about taken over on U.S. dinner tables for day-to-day living.

A myriad of other paper products substitute for cloth, too—handkerchiefs for runny noses, roll towels over kitchen sinks, baby diapers, hospital bedsheets, to name just a few. And none of them have to be washed or ironed—just thrown away when soiled.

These paper staples not only cut down on laundry chores, but also cut into soap and synthetic detergent consumption.

Nowadays we're using about 32 pounds of soap and detergents per person per year. That's about 5 pounds more than in the late 1940's. But this uptrend may well level off if paper continues to replace cloth.

Already, laundry soap has fallen from consumer favor on wash day and has been largely superseded by detergents.

Unlike soap, the synthetic detergents (primarily of petroleum origin) don't leave rings in the wash tubs when used with hard water.

Per person we used about 26 pounds of synthetic detergents in 1967 and 6 pounds of soap. In the late 1940's the figures read the other way around—24 pounds of soap per capita and 3 pounds of synthetic detergents.

About 90 percent of the soap we use today is in toilet or hand bar form. Detergents still haven't penetrated the bar soap market much because detergent bars are more expensive and have less desirable qualities than soap.

As a synthetic detergent bar becomes small, it has a tendency to crumble or dissolve much more

than a soap bar.

Also, detergent bars take more of the oil out of the user's skin than soap, and thus tend to leave the hands and face feeling unclean. To overcome this disadvantage, synthetic detergent bar manufacturers add cold cream or other emollients—and this boosts costs.

Most of the remaining soap is used by commercial laundries. Many of these commercial establishments, especially those in hard water areas, find that soap plus soft water is cheaper than synthetic detergents because they have already depreciated their water softening equipment. (22)

We Beef Up Our Beef Eating But Cut Down on Other Red Meats

Day in, day out, the average American ate about a half a pound of red meat in 1969. And 3 out of 5 days, that red meat happened to be beef.

Overall, our red meat consumption in 1969 ran to about 181 pounds—nearly 2 pounds less than the year before.

Our per capita beef serving came to about 110 pounds—roughly half a pound more than in 1968. Beef was the only red meat to register any gain last year. Consumers ate more of it—their favorite fare—despite higher beef prices.

Veal consumption per person was down about a third of a pound from the 3.6 pounds of the year before.

The per capita pork portion was down 1 pound from the 1968 helping of 66 pounds.

And we ate about a fourth of a pound less lamb and mutton per person in 1969 than the 3.7 pounds of the previous year.

Retail meat prices, in contrast, were on the upswing.

The 1969 index of retail meat prices (BLS) averaged about a tenth above the 1968 index and

ranks as the highest annual average on record.

By commodity, here's the story:

Beef. Our consumption last year was tempered a bit by population growth—which partially offset a small increase in beef production and a rise in beef imports.

Average retail prices rose from about 90 cents per pound in January-March 1969 to over \$1.02 in July. They then receded somewhat—averaging 95.3 cents a pound in October.

This winter and spring we'll probably up our consumption slightly from a year ago—reflecting a continued expansion in cattle feeding. Retail prices should ease further—though they are expected to remain above prices a year ago.

Veal. Consumption is expected to continue lower in the first half of 1970 because of further declines in production.

Retail prices generally have been on the rise since 1964. Since last August they have averaged over \$1.15 a pound—the highest ever. And with the lower production indicated, retail prices probably will continue high.

Pork. Last year's dip in pork production reflected, in part, smaller supplies as a result of the severe 1968/69 winter followed by disease problems in the spring.

Retail pork prices were steady through most of the first half of 1969, but rose rapidly during the summer. In October they averaged 79 cents per pound. Pork prices this winter should drop a bit as supplies increase seasonally.

Lamb and mutton. The downturn in consumption will probably continue through the first half of this year, but at a more moderate rate than in 1969.

Retail prices peaked at \$1.05 a pound last October. Prices the first half of this year are expected to stay near those of last fall. (23)

THE DIFFICULT CASE OF THE NON-DISAPPEARING AFRICAN LAND TENURE SYSTEMS



In many of Africa's developing nations, agricultural development is often impeded by the forces of tradition—such as an out-of-date patchwork pattern of land tenure.

Wherever people cling to age-old customs, economic progress is precarious.

This is particularly true in the developing parts of the world, and nowhere more so than in Africa—where agricultural development and economic progress are often

just about synonymous.

In developing African nations, many traditional institutions are not suited to a modern social and economic environment. Yet they are deeply rooted and linger on. Often they tend to frustrate rather than aid the success of agricultural development plans.

Most of the millions of people in the developing countries of Africa aren't industrialists or merchants. They are farmers or small traders. Some are also traditional leaders in the thousands

of tribal or ethnic units that are represented in the continent's present-day roster of over 40 independent nations.

Many millions of these people, too, live and farm in the same village or community where their fathers and forefathers lived.

Often they till the same patch of already overworked land—no matter how much it has deteriorated with the passing of centuries.

Land tenure systems are a prime example of cherished insti-

tutional inheritances that can either help or hinder technological or economic improvements.

And while land tenure is only one aspect of agricultural development, it is the cornerstone of traditional societies everywhere in the underdeveloped world.

And in these societies, farmers tend to cling to the tenets of ancient land tenure systems that adequately served the needs of their ancestors—needs that were linked to a mode of life designed for survival of the group.

Unfortunately, these time-honored land tenure systems are not geared for the introduction of modern technology. Nor do they provide appropriate incentives or opportunities for an ambitious farmer to move into today's economic mainstream, with its strong currents of individualism and commercialization.

Typically, these traditional south-of-the-Sahara tenure systems are based on three cardinal principles:

Land belongs to the community and cannot normally be transferred permanently to an "outside" group. Individuals in the community have security of land tenure to meet their subsistence needs. And no member of the community shall be without land.

Adherence to these principles has created specific problems that often impede efforts to provide profit motives for progressive individual farmers. For instance:

—Land holdings are highly fragmented not only in actual size, shape, and location but also as legal "bundles of rights."

For example, an individual farmer may cultivate half a dozen, or more, small scattered plots. At the same time, the produce of a piece of land may belong to one person, while that of the trees on it may belong to someone else.

Such fragmentation — largely the result of inheritance procedures—may make adaptation to modern technology uneconomical or almost physically impossible.

Arbor Day, Every Day

A tree can be as valuable as a plot of land—and sometimes more so—in many of the less developed areas of Africa.

For rural families in a subsistence economy, trees that bear such marketable products as palm oil, cocoa, and rubber may be the major source of ready cash to pay taxes and buy certain necessities.

Thus, ownership and inheritances of economically important trees can be as complicated and important as land tenure rights.

In many cases (plantations excluded), a village is the predominant owner of the income-earning trees in its environs and uses the profits for the community's welfare.

Alternatively, most such trees may belong to the person taking care of them. The eldest son then usually inherits them, but if his father had more than one wife, the eldest son of each wife will be given an appropriate share of the tree legacy. (25)

—There are generally no individual fee simple types of farmland ownership in rural areas. Consequently, the land is not available as collateral for credit.

Traditional ways of temporarily transferring rights to use land (and trees) among villagers usually have no provisions to compensate the temporary cultivator for permanent improvements. Yet, in fact, he may be the actual cultivator for many years.

—Finally, land is often maldistributed among individuals and among adjoining communities.

Since all the above (and other) attributes of traditional tenure systems may discourage the cultivator from making long term investments in the land, they thus impede development.

Whatever proposals may be made to improve the situation, or whatever kind of plans for progress may be launched, one thing seems certain: The results are much more likely to be desirable

from both an economic and a social standpoint if these old land tenure patterns can be changed.

Moreover, the deterrent effects of outdated land tenure systems can only intensify unless they are modernized. This goal has to be a part of any overall development plan for agriculture.

Hypothetically speaking—and in the broadest terms—development plans for Africa (as elsewhere) can take one of two opposed courses of action:

One course is to ignore the existing agricultural system entirely and attempt to replace it with a completely new one. But this method that sometimes seems relatively quick-and-easy has not usually been very successful in countries where it has been tried.

A second course is to try to use the traditional agricultural system and its institutions as the foundation for a more modern and productive system.

With regard to tenure, there are many different facets to African systems.

No particular existing tenure system can accurately be considered as "typical" or even "average" for developing African areas in general.

Nevertheless, many of the characteristics of any particular system for a numerically important group will be found to be present in other systems also. At the same time, some of a particular system's inadequacies—and the problems they create for agricultural developers—are likely to be prevalent in widely varying degrees in other systems, ethnic groups, or geographic areas.

It therefore follows that research and subsequent reform measures which are successful in modifying and improving one tenure system will normally be helpful in solving similar problems of other, related tenure systems.

Melding old traditions with new technology is a slow and difficult process. And, ideally, the

groundwork for innovation and change would be laid by research teams composed of social anthropologists and rural sociologists, as well as agricultural economists.

Even so, past experience indicates that this arduous second course of modifying and improving existing land tenure systems may be the most appropriate development route to take in Africa. (24)

Technological Revolution Raises Farm Output of Western Europe

On the world's balanceboard of agricultural production, Western Europe has been on the upswing since 1950. And impressive rises in output have been made by France, the Netherlands, the United Kingdom, and Spain.

Various factors have contributed to the general uptrend in farm output. But in most countries the basic reasons for increased agricultural productivity can be boiled down to favorable producer prices and heavy applications of science and technology.

Statistics tell much of the story. For example:

Tractor numbers have nearly doubled in the six-country European Community (EC) in the last 10 years.

Use of technological inputs such as nitrogenous fertilizers has risen by 80 percent in many of the nations who are members of the European Free Trade Association (EFTA).

This technological revolution in Europe has been accompanied by a sharp decline in the agricultural labor force.

By 1967 the number of agricultural workers in the EC as a whole had declined to about 15 percent of the total work force. The percentage decline was greatest in Italy (24 percent) and smallest in Belgium (6 percent).

For EFTA as a whole, the agricultural work force made up

about 10 percent of the total work force in 1967. The percentages varied widely among the member countries, ranging from 3 percent in the United Kingdom to 34 percent in Portugal.

Despite the rural exodus, the average farm in Western Europe is still too small to utilize modern agricultural technology fully and effectively.

Farms in the EC average only about 27 acres, with France having the largest and Italy the smallest farms. The U.S. average, in contrast, is about 350 acres.

Farms in EFTA also are generally small, averaging about 30 acres. U.K. farms are at the top of the size range with an average of about 75 acres, while farms in Norway and Portugal are at the opposite end with an average of only about 12 acres. (26)

Five South American Countries Form Andean Common Market

The Andean countries of Colombia, Ecuador, Peru, Bolivia, and Chile have committed themselves to formation of a common market.

An Andean Integration Pact, signed May 26, 1969, was approved last July by the Latin American Free Trade Association, to which the five Andean countries belong. As of September 1, however, only the Colombia government had ratified the pact.

LAFTA's slow progress in advancing free trade—and the dominance of Brazil, Mexico, and Argentina in that group—prompted the Andean nations' step toward subregional integration.

Under the Andean pact, full details of which are not yet available, internal trade barriers will be removed and a common external tariff established in programmed steps over an 11-year period.

However, a limited number of

exceptions to liberalization will be allowed each member during initial years of the trade integration process.

The Andean countries hope that the union of their 50 million people into a common market will stimulate industrial development of the subregion, now primarily agricultural. The Andean Development Corporation will provide the capital. (27)

South Sea Islander Off Looks To U.S. for a Chicken Dinner

Cocoa beans and coconuts. Ginger root and vanilla beans. Beet sugar, cane, and coffee beans. Mace; rennet, and vegetables—including dasheens.

These are some of the agricultural products we import from the South Pacific islands that lie between the Tropic of Capricorn and the Equator. Value of these purchases is not a significant figure in our total import bill.

But these islands, in return, rely on us for about 10 percent of their total agricultural imports. And the value of these imports from all sources has risen to about \$80 million a year—more than double the value of the islands' imports 5 years ago. (Imports of poultry meat alone have gone up about three and a half times.)

Cereals account for about 25 percent of the total; meats, 22 percent; fruits and vegetables, 13 percent; beverages, 11 percent; dairy products and eggs, 10 percent; and miscellaneous items, 20 percent.

French Polynesia is the biggest South Pacific island customer for U.S. farm products. We provide about 25 percent of its agricultural imports—mostly poultry.

The Territory of Papua and New Guinea is our smallest customer in the group. The U.S. share of its agricultural imports is only about 2 percent. (28)

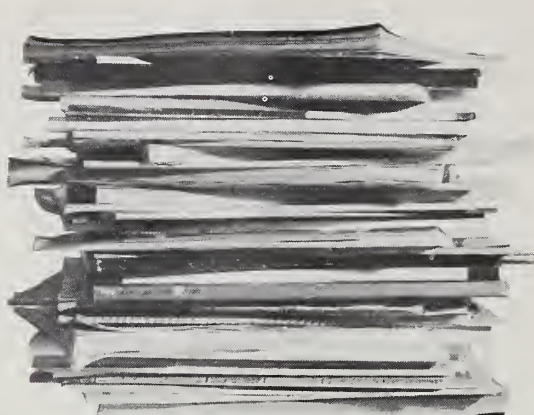
MONTHLY PRECIPITATION PROBABILITIES BY CLIMATIC DIVISIONS: 23 EASTERN STATES FROM THE GREAT LAKES TO THE GULF COAST. J. E. Horsfield, Natural Resource Economics Division, and N. D. Strommen, Environmental Science Services Administration. Misc. Pub. 1160.

Precipitation probability data by climatic divisions is presented for 23 eastern States. The explanation of the development and application of the data uses Maryland as an example. Data for other States can be interpreted in a similar manner.

THE HIRED FARM WORKING FORCE OF 1968: A STATISTICAL REPORT. R. C. McElroy, Economic Development Division. AER-164.

A statistical picture of the size and composition of the 1968 hired farm working force, employment on farms, and cash earnings from farmwork is provided in this report.

THE EFFECTS OF CHANGING COTTON PRODUCTION TECHNOLOGY ON FARM ORGANIZATION AND INCOME, UPPER COASTAL PLAIN, SOUTH CAROLINA. B. H. Robinson and C. P. Butler, Farm Production Economics Division, and J. W. Hubbard, South Carolina Agricultural Experiment Station.



RECENT PUBLICATIONS

The publications listed here are issued by the Economic Research Service and cooperatively by the State universities and colleges. Unless otherwise noted, reports listed here and under Sources are published by ERS. Single copies are available free from The Farm Index, OMS, U.S. Department of Agriculture, Washington, D.C. 20250. State publications (descriptions below include name of experiment station or university after title) may be obtained only by writing to the issuing agencies of the respective States.

S. C. Agr. Expt. Sta. Bull. 546.

The objectives of this study were to observe levels of technology employed on cotton producing farms; to evaluate their

effects on production costs; and to determine the combined effects of various levels of technology, farm size, product price, and acreage restrictions on farm adjustment and income potential.

PRIVATE OUTDOOR RECREATION ENTERPRISES IN RURAL APPALACHIA. H. A. Johnson, J. M. Huff, and J. J. Csorba, Natural Resource Economics Division. ERS-429.

In general, the kinds and qualities of facilities found in this survey had limited potential for expansion to meet increasing urban needs for outdoor recreation.

EQUIPMENT TECHNOLOGY AND WEATHER ON RICE FARMS IN THE GRAND PRAIRIE, ARKANSAS: ECONOMIES OF SIZE FOR SPECIFIED TRACTOR AND LABOR COMBINATIONS. J. B. Hottel, W. R. Grant, and T. Mullins, Farm Production Economics Division, in cooperation with Arkansas Agricultural Experiment Station. Ark. Agr. Expt. Sta. Bull. 748.

This report may provide a better understanding of the economies resulting from fuller utilization of equipment and labor resources when net returns to the farm are affected by uncertain weather conditions during the rice planting season.

Numbers in parentheses at end of stories refer to sources listed below:

1. Emanuel Melichar, "Seasonal Discount Assistance to Rural Banks: Evaluation of a Federal Reserve Proposal," Agr. Fin. Rev., Vol. 30, July 1969 (P); 2. The Balance Sheet of the Farming Sector, 1969, AIB (M); 3. Radoje Nikolitch, Family-operated Farms: Their Compatibility With Technological Advance, Am. Jn. of Ag. Econ., Vol. 51, No. 3, Aug. 1969 (P); 4. John E. Lee, Jr., Acquiring Resource Services for Farming: Some Possibilities for the Seventies (S); 5. Livestock and Meat Situation, LMS-170 (P); 6. Feed Situation, FdS-231 (P); 7. John L. McCoy, Rural Poverty in Three Southern Areas: Mississippi Delta, Ozarks, and Southeast Coastal Plain Regions (M); 8. William D. Anderson (SM); 9. Ronald Bird and Thomas F. Hady (SM); 10. Richard Carkner and Russell Youmans, Analysis of Expenditures on Selected Social Services in Oregon Towns and Cities, Ore. Agr. Expt. Sta. (M*); 11. Anne E. Hammill and W. Keith Bryant, Factors That Influence Rural and Rural Farm Incomes in Minnesota, Minn. Agr. Expt. Sta. (M*); 12. Farm Population—Estimates for 1968, ERS-427 (P); 13. E. Grant Youmans and Marian R. Yarrow (SM); 14. Roy A. Ballinger, A History of Sugar Marketing (M); 15. Dairy Situations, DS-328 (P); 16. Carl J. Vosloh, Jr., Alfalfa Dehydration, Separation, and Storage: Costs and Capital Requirements (M); 17. and 18. Fats and Oils Situation, FOS-250 (P); 19. Tobacco Situation, TS-130 (P); 20. Frederick Gray, "Cyclamate Sweeteners," Nat. Food Sit., NFS-130 (P) and

Roy A. Ballinger, "Sugar Substitutes," Synthetics and Substitutes for Agricultural Products: A Compendium, Misc. Pub. 1141 (P); 21. Ray S. Corkern, "Protein From Petroleum," Synthetics and Substitutes for Agricultural Products: A Compendium, Misc. Pub. 1141 (P); 22. Harry O. Doty, Jr. and John V. Lawler, "Synthetics and Substitutes for Oilseed Products," Synthetics and Substitutes for Agricultural Products: A Compendium, Misc. Pub. 1141 (P); 23. Livestock and Meat Situation, LMS-170 (P); 24. and 25. William P. Huth, Traditional Institutions and Land Tenure as Related to Agricultural Development Among the Ibo of Eastern Nigeria (Pub. as RP-36, August 1969, by Land Tenure Center, Univ. of Wis.); 26. Marshall H. Cohen and Donald M. Phillips, An Overview of Agriculture in Western Europe (SM); 27. Edmond Missiaen (SM); 28. Foreign Regional Analysis Division, The Agricultural Situation in the Far East and Oceania—1969 Midyear Review, ERS-For. 280 (P) and Foreign Development and Trade Division (SM); 29. Richard Hall and Stephen M. Raleigh, Jr., Commercial Floriculture and Related Products: Statistical Supplement to Marketing Research Report No. 855 (P); 30. Richard J. Arnould, Diversification and Profitability Among Large Food Processing Firms (M).

*Speech (S); published report (P); unpublished manuscript (M); special material (SM); *State publications may be obtained only by writing to the experiment station or university cited.*

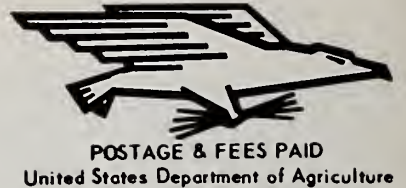
ECONOMIC TRENDS

Item	Unit or Base Period	'57-'59 Average	1968		1969		
			Year	November	September	October	November
Prices:							
Prices received by farmers	1910-14=100	242	261	264	275	277	285
Crops	1910-14=100	223	229	231	214	217	228
Livestock and products	1910-14=100	258	288	292	328	327	333
Prices paid, interest, taxes and wage rates	1910-14=100	293	354	360	374	376	377
Family living items	1910-14=100	286	335	341	354	355	356
Production items	1910-14=100	262	292	294	304	305	306
Parity ratio		83	74	73	74	74	76
Wholesale prices, all commodities	1957-59=100	—	108.7	109.6	113.6	114.0	114.5
Industrial commodities	1957-59=100	—	109.0	109.9	113.2	113.8	114.0
Farm products	1957-59=100	—	102.2	103.1	108.4	107.9	110.4
Processed foods and feeds	1957-59=100	—	114.1	114.7	121.3	121.6	121.6
Consumer price index, all items	1957-59=100	—	121.2	123.4	129.3	129.8	—
Food	1957-59=100	—	119.3	120.5	127.5	127.2	—
Farm Food Market Basket: ¹							
Retail cost	Dollars	983	1,118	1,125	1,196	1,186	—
Farm value	Dollars	388	435	430	484	477	—
Farm-retail spread	Dollars	595	683	695	712	709	—
Farmers' share of retail cost	Percent	39	39	38	40	40	—
Farm Income: ²							
Volume of farm marketings	1957-59=100	—	126	170	143	185	170
Cash receipts from farm marketings	Million Dollars	32,247	44,386	4,883	4,482	5,617	5,100
Crops	Million Dollars	13,766	18,847	2,712	1,904	2,782	2,400
Livestock and products	Million Dollars	18,481	25,539	2,171	2,578	2,835	2,700
Realized gross income ³	Billion Dollars	—	51.1	—	55.3	—	—
Farm production expenses ³	Billion Dollars	—	36.3	—	38.8	—	—
Realized net income ³	Billion Dollars	—	14.8	—	16.5	—	—
Agricultural Trade:							
Agricultural exports	Million Dollars	4,105	6,228	—	471	464	—
Agricultural imports	Million Dollars	3,977	5,024	—	399	396	—
Land Values:							
Average value per acre	1957-59=100	—	⁵ 170	—	—	—	⁶ 179
Total value of farm real estate	Billion Dollars	—	⁵ 193.7	—	—	—	⁶ 202.6
Gross National Product: ³							
Consumption	Billion Dollars	457.3	865.7	—	942.8	—	—
Investment	Billion Dollars	294.2	536.6	—	579.8	—	—
Government expenditures	Billion Dollars	68.0	126.3	—	143.3	—	—
Net exports	Billion Dollars	92.4	200.3	—	217.0	—	—
	Billion Dollars	2.7	2.5	—	2.7	—	—
Income and Spending: ⁴							
Personal income, annual rate	Billion Dollars	365.3	687.9	711.5	760.7	763.1	—
Total retail sales, monthly rate	Million Dollars	17,098	28,309	28,806	29,249	29,371	—
Retail sales of food group, monthly rate	Million Dollars	4,160	6,106	6,235	6,298	—	—
Employment and Wages: ⁴							
Total civilian employment	Millions	64.9	75.9	76.4	78.1	78.3	78.5
Agricultural	Millions	6.0	3.8	3.7	3.5	3.3	3.4
Rate of unemployment	Percent	5.5	3.6	3.4	4.0	3.9	3.4
Workweek in manufacturing	Hours	39.8	40.7	40.8	40.8	40.5	40.5
Hourly earnings in manufacturing, unadjusted	Dollars	2.12	3.01	3.8	3.24	3.25	3.26
Industrial Production: ⁴							
	1957-59=100	—	165	168	174	173	—
Manufacturers' Shipments and Inventories: ⁴							
Total shipments, monthly rate	Million Dollars	28,745	50,310	52,548	56,434	56,678	—
Total inventories, book value end of month	Million Dollars	51,549	88,579	87,947	94,211	94,994	—
Total new orders, monthly rate	Million Dollars	28,365	50,597	53,100	56,829	56,636	—

¹ Average annual quantities of farm food products purchased by urban wage-earner and clerical-worker households (including those of single workers living alone) in 1959-61—estimated monthly. ² Annual and quarterly data are on 50-State basis. ³ Annual rates seasonally adjusted third quarter. ⁴ Seasonally adjusted. ⁵ As of November 1, 1968. ⁶ As of March 1, 1969.

Sources: U.S. Dept. of Agriculture (Farm Income Situation, Marketing and Transportation Situation, Agricultural Prices, Foreign Agricultural Trade and Farm Real Estate Market Developments); U.S. Dept. of Commerce (Current Industrial Reports, Business News Reports, Advance Retail Sales Report and Survey of Current Business); and U.S. Dept. of Labor (The Labor Force and Wholesale Price Index).

OFFICIAL BUSINESS



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Hearts and Flowers

February isn't generally considered the most popular month of the year.

Lots of people think of it as gloomy, weatherwise. Others regard it as a too-short respite between paying Christmas bills and tackling income tax forms.

But florists are usually fond of February. It marks the start of their busiest and most profitable season for sales of cut flowers to customers who want them for "special days."

These days inspire about 42 million cut flower purchases a year. And about 31 million of them are made between February 1 and May 31, a 4-month period that has a majority of the year's special days.

There are just 7 such days on the florist's trade calendar: Easter, Mother's Day, Christmas, Memorial Day, Thanksgiving, Valentine's Day, and Graduation—in order of sales volume. (New Year's Day, Father's Day, and Labor Day are among fetes that don't count.)

Young people under 25 years old who live in communities with populations under 50,000 are the most likely to say what they want to say with cut flowers on special days.

About 17 percent of special-day buyers are daughters. Over 13 percent are sons. But counting in suitors and spouses and others, men as a customer group outnumber all women about 3 to 2.

Whatever the cut flower choices for whatever special day, nearly three-fourths of them are made by a personal visit to the florist. (29)

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